

REMARKS

Claims 22 and 26 stand objected to because of informalities. More specifically, the Examiner asserts “vacuum.” should read “vacuum” in line 6 of claim 1, and “On” should be “on” in line 5 of claim 26. In response, Applicant amended the claims to correct these informalities, as suggested by the Examiner, and also corrected “lime” to “time” in claim 22. Since these claim amendments are merely formal in nature, and do not affect the scope of the claims or require further search or consideration, Applicant respectfully requests that these amendments be entered as a matter of right.

Claims 22 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant’s Admitted Prior Art (“AAPA”) in view of Watanabe (JP 57-116947). Applicant respectfully traverses the rejection because the combination of the AAPA and Watanabe results in an inoperable structure, and therefore there is no motivation to combine the references.

The Examiner acknowledges on page 2, item 3 of the outstanding Office Action that the AAPA differs from the present invention in that the AAPA does not teach a fixing block provided on a floor panel, a vibration transmission suppressing mechanism for maintaining a distance between the inlet pipe and the fixing block in an extending direction of the flexible pipe so as not to shrink the flexible pipe at the time of evacuation, and also the feature of wherein the vibration transmission suppressing mechanism is provided between the vacuum pumps. Nonetheless, the Examiner asserts Watanabe teaches these features.

More specifically, the Examiner asserts Watanabe teaches a vibration transmission suppressing mechanism 9 for maintaining a distance between an inlet pipe and a fixing block (9a-2, 9b-2) in an extending direction of the flexible pipe so as not to shrink the flexible pipe at the time of evacuation for maintaining a distance between the inlet pipe and the fixing block. (See Abstract and figures). The Examiner further asserts that Watanabe can be combined with the AAPA to prevent vibration transmission to the vacuum chamber caused by movement of the vacuum pump. Applicant respectfully disagrees because Watanabe is designed to prevent shrinkage of the flexible pipe in a vertical direction (i.e., perpendicular to the floor), and not in a horizontal direction (i.e., parallel to the floor) as in the present invention.

FIG. 8 of the AAPA shows a vacuum chamber 16 that includes a straight pipe 38 and flexible pipe 36 that are generally horizontal to the floor. An elbow pipe 34 and straight inlet pipe 32 are connected to the vacuum pump 18. In the outstanding rejection, the Examiner asserts that it is possible to modify FIG. 8 of the present Application by incorporating the features of Watanabe. However, Watanabe has a pair of links or wires 9a, 9b that attach to a movable plate 6 of a gimbal mechanism 5. The other ends of the links 9a, 9b are connected a stand 10. The stand 10 is inevitably fixed such that the movable plate 6 is unable to move in an upwards vertical direction to allow much shrinkage of the flexible pipe 4. As shown in FIGs. 4 and 5 of Watanabe, a minor portion of the flexible pipe 4 can be tilted in an X or Y direction to enable pendulum motion. Accordingly, since Watanabe teaches that the links 9a, 9b have to be attached to the stand

10, in a vertical direction, Applicant respectfully submits that there is no way to modify Watanabe to prevent shrinkage of the flexible pipe since there is no structure like the stand 10 that the AAPA provides to allow for attachment of the stand thereto. More specifically, there is no structure above the vacuum pump 18 of FIG. 8 of the present Application by which the stand 10 of Watanabe could be attached to prevent shrinkage of the flexible pipe. Accordingly, any combination of the AAPA and Watanabe results in an inoperable structure, and for at least this reason, the rejection should be withdrawn, which is respectfully requested.

Applicants further traverse the rejection because, assuming *arguendo*, that the AAPA and Watanabe could be combined, the combination would still fail to disclose or suggest the vibration transmission suppression mechanism for maintaining a distance between the inlet pipe and the fixing block in an extending direction of the flexible pipe so as to not to shrink the flexible pipe at a time of evacuation. As shown in FIGs. 4 and 5 of Watanabe, even if the stand 10 and links 9a, 9b are utilized, Watanabe still allows for shrinkage of the flexible pipe during the pendulum motion in the X or Y directions. Therefore, even if the AAPA and Watanabe were combined, the combination would fail to disclose or suggest a flexible pipe that is not shrunk at the time of evacuation. For this additional reason, the rejection is improper, and withdrawal of the §103(a) rejection of claims 22 and 23 is respectfully requested.

FIG. 8 and the related description in the present Specification are concerned with the comparative example for explaining the vibration preventing mechanism of the

present invention. Neither the comparative example of the present invention nor each of the cited documents discloses or suggests the feature of pending claim 22 related to each of the vacuum pumps being provided in parallel with each other with a gap therebetween, and a vibration transmission supporting mechanism being provided between the vacuum pumps. Accordingly, for this additional reason, withdrawal of the §103(a) rejection of claims 22-23 is respectfully requested.

Claims 22-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable AAPA in view of Sekiguchi et al. (JP 61-008479) and Elliotte (JP 57-116947). Applicant respectfully traverses the rejection because the combination of the AAPA and Sekiguchi results in an inoperable structure.

The deficiencies of the AAPA are noted above. On page 4, third paragraph of the outstanding Office Action, the Examiner asserts that Sekiguchi teaches a vacuum bellows 26 and an exhaust line 27 between the vacuum pump 28 and a vacuum chamber 11 contracts under vacuum pressure, and that a chain 35 can be used to prevent movement of the bellows in a direction away from the chain. However, similar to Watanabe, Sekiguchi is designed to operate in a vertical direction (i.e., vertical to the ground). As discussed in the Abstract, in the device of Sekiguchi, a flange 30 goes down by weight of a weight 36 in a cryopump 28 whereby a second frame 33 and a stopper 34 go down as well. Accordingly, Sekiguchi is designed to operate with gravity acting on these components. However, if one were to combine the device of Sekiguchi with that of the AAPA, then the device of Sekiguchi would be rotated in a horizontal direction (i.e.,

parallel to the ground), and therefore, gravity could not operate to allow the device of Sekiguchi to function. Moreover, the Examiner has not provided any way in which the device of Sekiguchi could be attached to the AAPA to enable the device of Sekiguchi to operate in a horizontal manner.

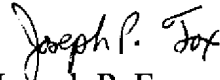
As discussed in the Abstract of Sekiguchi, the chain 35 is installed in a position between the frames 32 and 33 such that the exhaust pipe 27 moves freely with a center point of the bellows 26 as a fulcrum which the upward motion is checked with the length of the chain 35 as the limit. Accordingly, the device of Sekiguchi also pivots about a bellows which acts as a fulcrum, and therefore the exhaust pipe is shrunk as it pivots about the bellows. Therefore, even if the vacuum unit of Sekiguchi were combined with the AAPA, the combination would still not prevent shrinkage of the pipe because of the pivoting about the bellows. For this reason, and also because the combination of devices is inoperable because Sekiguchi is designed to work in a vertical direction and not a horizontal direction like the AAPA, Applicant respectfully requests withdrawal of the §103(a) rejection of claims 22-26.

For all of the foregoing reasons, Applicant submits that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

If a Petition under 37 C.F.R. §1.136(a) for an extension of time for response is required to make the attached response timely, it is hereby petitioned under 37 C.F.R. §1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely. The Commissioner is hereby authorized to charge any additional fees which may be required to this Application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,

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